This listing of claims will replace all prior versions, and listings, of claims in the present application:

1-16. (Canceled)

17. (New) A method comprising:

simultaneously displaying a plurality of cross-sectional images of a subject, each in a separate display area on a display device; and

enabling a user to selectively alter a display format of one of the display areas while the images are being displayed, to change a relationship between the images.

18. (New) A method as recited in claim 17, wherein the plurality of images are real-time images of the subject.

19. (New) A method as recited in claim 17, wherein each of the images represent a different cross-section of the subject.

20. (New) A method as recited in claim 17, wherein the plurality of images are real-time images of the subject, and each of the images represent a different cross-section of the subject.

21. (New) A method as recited in claim 17, further comprising:

enabling the user to selectively alter a display format of any one or more of the display areas while the images are being displayed, to change a relationship between the images.

22. (New) A method as recited in claim 17, wherein enabling a user to selectively alter a display format of one of the display areas comprises:

enabling the user to alter a spatial orientation of said one of the display areas.

23. (New) A method as recited in claim 17, wherein enabling a user to selectively alter a display format of one of the display areas comprises:

enabling the user to alter a representation of depth associated with the image in said one of the display areas.

24. (New) A method as recited in claim 17, wherein enabling a user to selectively alter a display format of one of the display areas comprises:

enabling the user to alter the display format of said one of the display areas without deforming the image in said one of the display areas.

25. (New) A method as recited in claim 17, further comprising overlapping the display areas on the display device in response to user input.

26. (New) A method as recited in claim 25, further comprising separately assigning each of the display areas an opacity value in response to user input.

27. (New) A method as recited in claim 17, further comprising:

separately assigning each of the display areas an opacity value; and

arranging each of the display areas on a three-dimensional image reconstructed with previously acquired data.

28. (New) A method comprising:

simultaneously displaying a plurality of real-time images of a subject adjacently on a display device, each image being displayed in a separate display area on the display device, each image representing a different cross-sectional slice of the subject; and

in response to user input, altering a display format of one of the display areas while the images are being displayed, to change a spatial relationship between the images.

29. (New) A method as recited in claim 28, wherein altering a display format of one of the display areas comprises altering a representation of depth associated with the image in said one of the display areas.

30. (New) A method as recited in claim 28, wherein altering a display format of one of the display areas comprises altering the display format of said one of the display areas without deforming the image in said one of the display areas.

31. (New) A method as recited in claim 28, further comprising enabling a user to selectively alter a display format of any one or more of the display areas while the images are being displayed, to change a relationship between the images.

32. (New) A method as recited in claim 28, wherein altering a display format of one of the display areas comprises:
altering a spatial orientation of said one of the display areas.

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33. (New) A method as recited in claim 28, further comprising overlapping the display areas on the display device in response to user input.

34. (New) A method as recited in claim 33, further comprising separately assigning each of the display areas an opacity value in response to user input.

35. (New) A method as recited in claim 28, further comprising:

separately assigning each of the display areas an opacity value; and

arranging each of the display areas on a three-dimensional image reconstructed with previously acquired data.

36. (New) A processing system comprising:

a processor;

a display device; and

a memory storing instructions which, when executed by the processor, cause the processing system to perform a process that includes:

simultaneously displaying a plurality of real-time images of a subject adjacently on the display device, each image being displayed in a separate display area on the display device, each image representing a different cross-sectional slice of the subject; and

enabling a user to selectively alter a display format of any one or more of the display areas while the images are being displayed, to change a spatial relationship between the images.

37. (New) A processing system as recited in claim 36, wherein enabling a user to selectively alter a display format of any one or more of the display areas comprises:

enabling the user to alter a spatial orientation of each said any one or more of the display areas.

38. (New) A processing system as recited in claim 36, wherein enabling a user to selectively alter a display format of one of the display areas comprises enabling the user to alter a representation of depth associated with the image in said one of the display areas.

39. (New) A processing system as recited in claim 36, wherein said enabling a user to selectively alter a display format of any one or more of the display areas comprises enabling the user to selectively alter a display format of any one or more of the display areas without deforming any of the images.

40. (New) A processing system as recited in claim 36, further comprising overlapping the display areas on the display device in response to user input.

41. (New) A processing system as recited in claim 40, further comprising separately assigning each of the display areas an opacity value in response to user input.

42. (New) A processing system as recited in claim 36, further comprising:

separately assigning each of the display areas an opacity value; and

arranging each of the display areas on a three-dimensional image reconstructed with previously acquired data.

43. (New) An apparatus comprising:

means for simultaneously displaying a plurality of real-time images of a subject adjacently on a display device, each image being displayed in a separate display area on the display device, each image representing a different cross-sectional slice of the subject; and

means for altering a display format of one of the display areas while the images are being displayed, in response to user input, to change a spatial relationship between the images.

44. (New) An apparatus as recited in claim 43, wherein the means for altering a display format of one of the display areas comprises means for altering a representation of depth associated with the image in said one of the display areas.

45. (New) An apparatus as recited in claim 43, wherein the means for altering a display format of one of the display areas comprises means for altering the display format of said one of the display areas without deforming the image in said one of the display areas.

46. (New) An apparatus as recited in claim 43, further comprising means for enabling a user to selectively alter a display format of any one or more of the display areas while the images are being displayed, to change a relationship between the images.

47. (New) An apparatus as recited in claim 43, wherein the means for altering a display format of one of the display areas comprises:

means for altering a spatial orientation of said one of the display areas.

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48. (New) An apparatus as recited in claim 43, further comprising means for overlapping the display areas on the display device in response to user input.

49. (New) An apparatus as recited in claim 48, further comprising means for separately assigning each of the display areas an opacity value in response to user input.

50. (New) An apparatus as recited in claim 43, further comprising:

 means for separately assigning each of the display areas an opacity value; and

 means for arranging each of the display areas on a three-dimensional image reconstructed with previously acquired data.